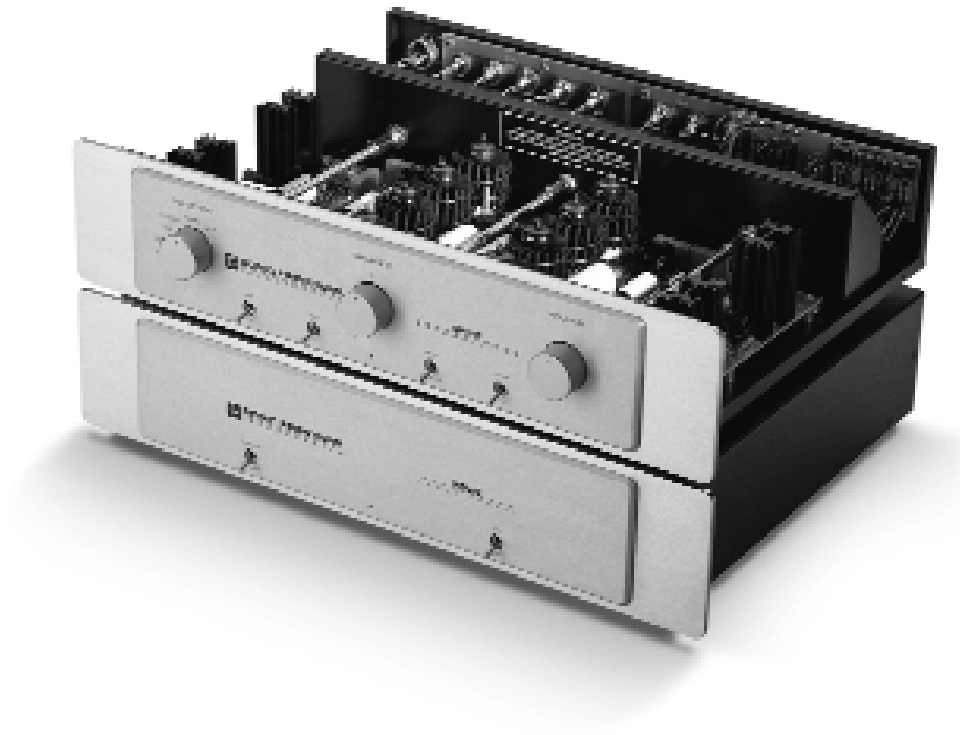
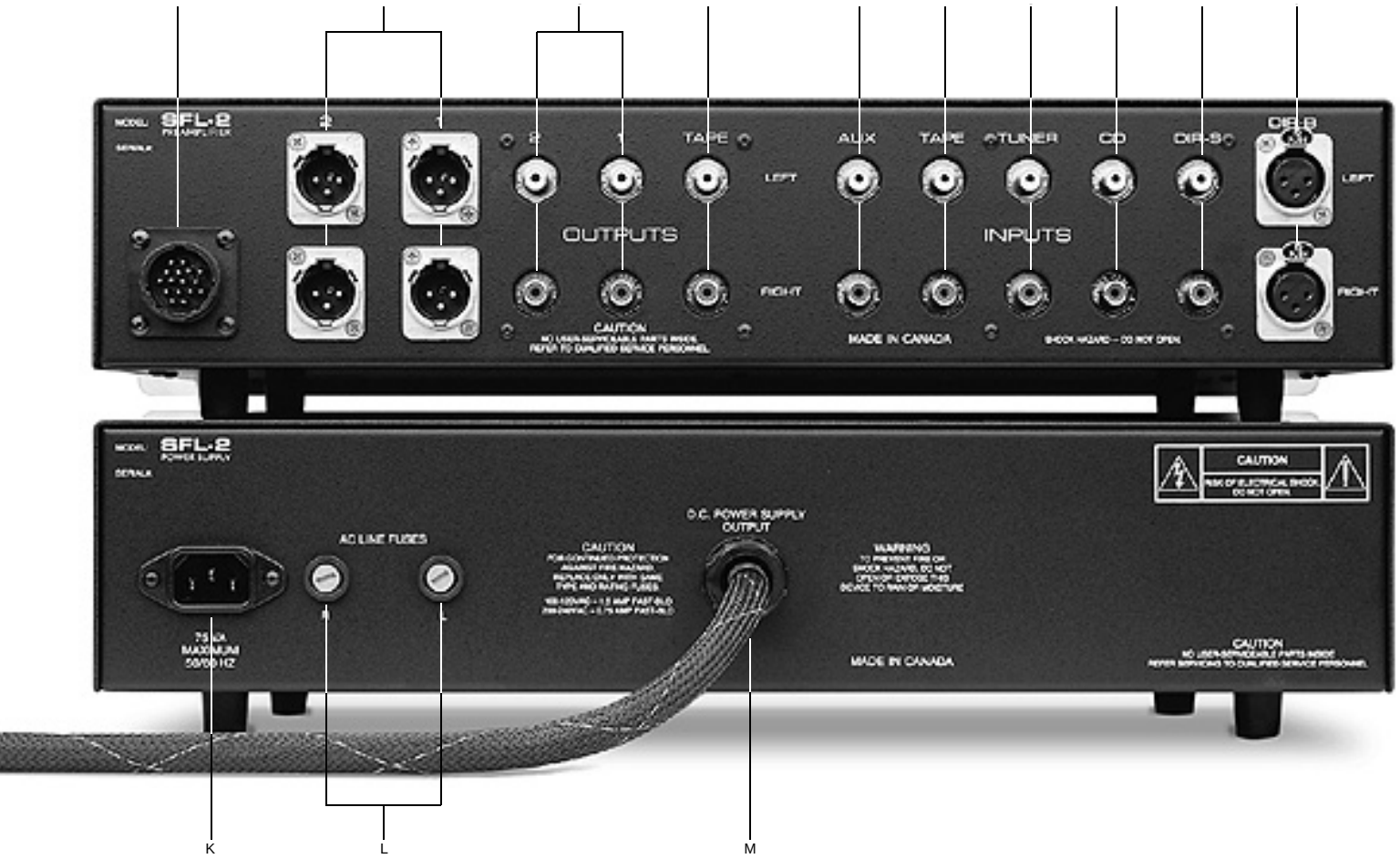
OWNER'S MANUAL

THE SONIC FRONTIERS SFL-2 PREAMPLIFIER AND POWER SUPPLY





OPERATION, CONNECTIONS AND CONTROL FUNCTIONS

A - Power Input Socket - Plug the Preamplifier Power Cord (M) from the Power Supply into this socket. Simply align the plug and socket so the plug inserts easily and freely when pushing the connection together. Screw on locking ring allowing it to "click" to secure the connection (see Figure 1).

B - Sets 1 & 2 of the XLR Balanced Outputs - These outputs are balanced and should be used when connecting outputs to another balanced unit. These two outputs allow for easier biamping and greater flexibility when dealing with components such as electronic crossovers, etc. As with all outputs and inputs on this Preamplifier the left channel is situated on the upper row of connectors and the right channel is on the lower row.

C - Sets 1 & 2 of the RCA Single-Ended Outputs - These unbalanced outputs are single ended and should be used when connecting the outputs to another single-ended unit. These two outputs, as with the XLR outputs (B), allow for easier biamping and greater system flexibility.

D - RCA Single-Ended Tape Output - These outputs connect to the inputs of a tape deck. When not recording these outputs should be muted via the Record / Off Switch (O).

E - RCA Single-Ended Auxiliary Input - This input will accept a single-ended input connection from a high-level source such as a VCR or a step-up device for a moving coil or moving magnet phono cartridge such as our SFP-1or SFP-1 Signature Phono Stage.

F - RCA Single-Ended Tape Input - This input accepts a single-ended input connection from a tape source.

G - RCA Single-Ended Tuner Input - This input accepts a single-ended input connection from a tuner source.

H - RCA Single-Ended Compact Disc Input - This input accepts a single-ended input connection from a compact disc player or a digital-to-analog processor such as our SFD-1 or SFD-2.

I - Direct RCA Single-Ended Input - This input accepts a single-ended input connection from any source to achieve the highest possible sonic performance, bypassing the Balance Control (Q) and the Record / Off Switch (O).

J - Direct XLR Balanced Input - This input accepts a balanced input connection from any source to achieve the highest possible sonic performance, bypassing the Balance Control (Q) and the Record / Off Switch (O).

K - Detachable Power Cord Socket - Plug the Power Supply's Detachable Power Cord into this socket (see Figure 2). The SFL-2 is factory set for the correct operating voltage for the area in which it is sold (see shipping box for voltage setting). If a different operating voltage is required, please contact an authorized Sonic Frontiers dealer, distributor or the factory directly.

L - AC Line Fuses - These are the left and right channel AC fuses. They may be accessed with a small slot screwdriver by turning a 1/2 turn counterclockwise to unlock a spring that ejects the fuse holders out. The unit is factory installed with "fast-blo" 1.5 Amp 250V (0.25" x 1.25") or 0.75 Amp 250V (0.25" x 1.25") for European and Asian versions.

M - Power Supply Umbilical Cord - This Umbilical Cord exits the Power Supply to plug into the Power Input Socket (A) on the SFL-2 Preamplifier (see Figure 1 for connection). It does not disconnect from the Power Supply.

N - Selector Switch - This knob is turned to select an input (E) through (J).

O - Record/Off Switch - This toggle switch turns the outputs off and prevents the main preamp outputs from being loaded down by the non-linear load of most tape decks when the record functions are not in use. To record, move the switch to the record position and wait a short delay (5 seconds) for the protective muting function to clear and connect the tape outputs.

P - 180°/0° Switch - This toggle switch allows the user to invert the system phasing easily and safely. Depending upon the methods used in producing the recording, the user may prefer listening to a given recording in either phase position - let your ears be your guide.

Q - Balance Control - This knob controls the relative balance of the left and right channels to compensate for any discrepancies caused by speaker placement, source imbalance, etc.

R - Mute/Operate Switch - In the mute position, this toggle switch cuts off the signal to the SFL-2 outputs (Band C); the LED (W) flashes as a reminder. In the operate mode, the outputs are connected.

S - -1.5 dB/0 dB Switch - This toggle allows for greater volume control over the 23-step/3 dB per step Volume Attenuator (T). In the -1.5 dB position the volume level will be reduced by 1.5 dB. This feature provides the attenuator with a total of 46 discrete steps, allowing the user a wide, precise volume control range.

T - 23-Step Precision Balanced Volume Attenuator Control - This knob controls the balanced attenuator. The attenuator is manufactured with a ladder of precision metal film resistors that give precise control over left and right channel levels in 3 dB steps over 23 positions. Turn it clockwise and the music gets louder!

U - Operate/Standby Switch - When this toggle switch is in the operate position and the Power Supply Switch (X) is on, the Preamplifier is fully functional. In the standby "resting" mode, power is still supplied to the tube filaments, but the high voltage power supplies are disconnected from the audio circuitry.

V - LED Power Supply - This LED lights when the Power Supply is on.

W - LED Preamplifier - This LED lights when the Preamplifier is on and flashes during warmup, muting, or low voltage from the A.C. power source.

X - On/Off Switch - In the "on" position, this toggle turns the Power Supply on. In the "off" position, the Power Supply and Preamplifier are off.

Note: Be sure the Power Supply Umbilical Cord (M) that is attached to the Power Supply chassis is plugged into the Preamplifier chassis before the On/Off Switch (X) is turned on. Failure to do this may cause damage to the SFL-2.

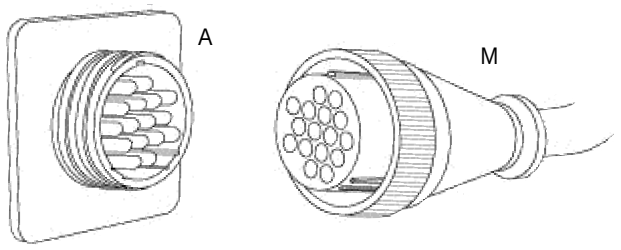


Figure 1 - Align pins in receptacle (A) to pin holes in connector (M), align notches to ridges and push together. Turn locking ring clockwise until it "clicks" indicating it is locked.

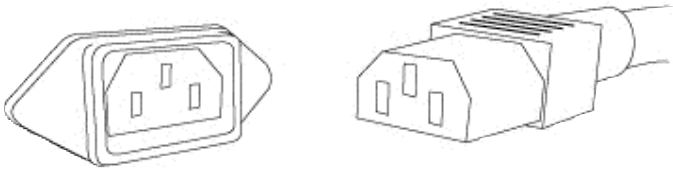


Figure 2 - Align socket pins to corresponding holes and push together.

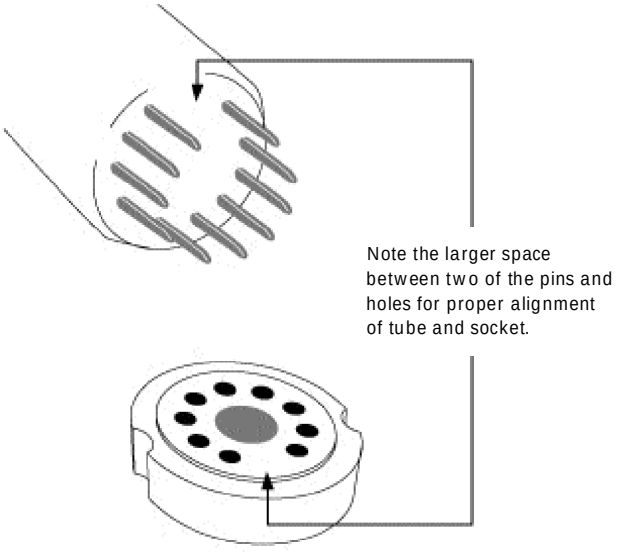


Figure 4 - Tube pin alignment with the socket.

WARNING

DO NOT ADJUST the controls represented in the shaded box shown in Figure 3 below. These controls have been factory set for the optimum performance (both sonically and electrically) of the SFL-2 Preamplifier. Do not adjust these controls - doing so will degrade the performance of the SFL-2. They may only be adjusted using specialized test equipment that only authorized service depots, distributors or the Sonic Frontiers factory have for this purpose.

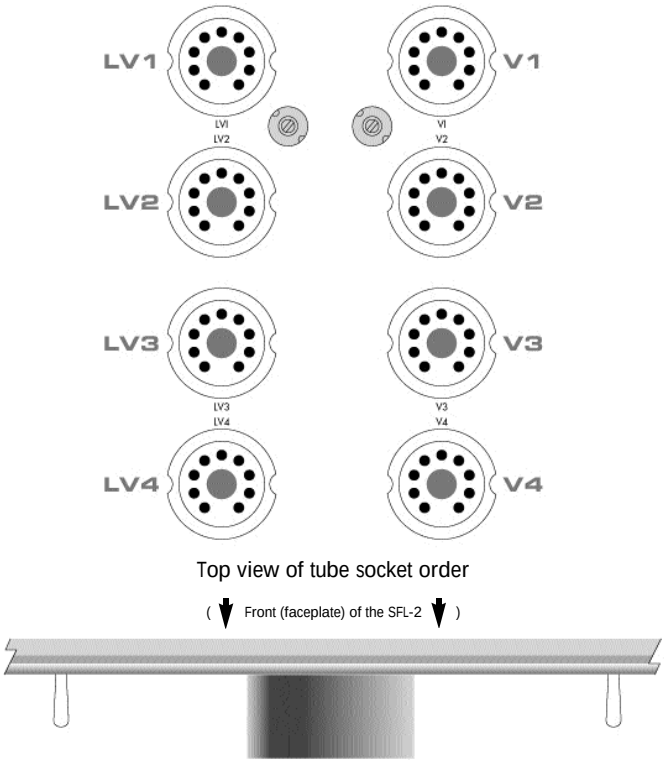


Figure 3 - Tube and tube socket order.

WARNING

DISCONNECT the AC Detachable Power Cord from the SFL-2 Power Supply before removing the Preamplifier chassis cover.

INSERTION OF THE TUBES

The SFL-2 comes with eight 6922 (6DJ8-type) tubes, individually boxed and bagged along with a cotton glove, allen key, Pearl™ Tube Coolers and screws for fastening the SFL-2 cover.

Please read and follow these instructions carefully. Great care was taken in the testing, selection and matching of the supplied tubes in order to ensure proper operation of the unit. Failure to follow these instructions will cause the SFL-2 Preamplifier to suffer in performance and sound quality.

1. Be sure that the AC Detachable Power Cord is disconnected from the SFL-2 Power Supply before removing the Preamplifier chassis cover.

2. Using the allen key, remove the cover of the SFL-2 Preamplifier. For convenience, there will be only two screws holding it in place.

3. When handling the tubes, it is recommended the cotton gloves provided be worn to prevent skin oils from depositing on the glass surface and possibly causing the tube to become prematurely "gassy", thereby shortening the tube's useful operating life.

4. Inspect the tubes for code markings. They will be coded individually, each with one of the following codes: LV1, LV2, LV3, LV4, V1, V2, V3 and V4.

5. Inspect the tube sockets in the SFL-2 Preamplifier for the codes matching the codes on the tubes. The coding is printed on the PCB circuit board beside the tube sockets. See Figure 3 for further clarification.

6. Take the LV1 tube and inspect the pins noting the larger space between two of the pins. This space will align with the same larger space between two of the pin holes on the socket. Insert the LV1 tube into the LV1 tube socket, making sure all pins and pin holes are aligned (see Figure 4). Do not force the tube into the socket. Rock the tube gently while pushing slowly until the tube is firmly seated. Repeat this step for the remaining tubes, LV2 tube to the LV2 tube socket, LV3 tube to the LV3 tube socket, LV4 tube to the LV4 tube socket, V1 tube to the V1 tube socket, V2 tube to the V2 tube socket, V3 tube to the V3 tube socket and V4 tube to the V4 tube socket.

7. Install the supplied Pearl™ Tube coolers over each tube, keeping the bottom edge of the cooler away from the top surface of the socket. Next, install the supplied rubber "O"-rings - 2 rings per cooler, evenly spaced at 1/3 from the bottom and 1/3 from the top to clamp the cooler firmly around the tube.

8. Replace the cover and fasten it with the screws provided. The SFL-2 Preamplifier is now ready for operation.

REPLACEMENT OF THE TUBES

Sonic Frontiers strongly discourages non-factory replacement of the tubes. The eight 6922 (6DJ8-type) tubes are measured, selected, and matched in balanced pairs - channel to channel and triode section to triode section - for optimum performance.

If replacement tubes are needed or desired, contact Sonic Frontiers for assistance.

SFL-2 PREAMPLIFIER AND POWER SUPPLY PLACEMENT

Under no circumstance should the SFL-2 Power Supply be placed directly on top of the SFL-2 Preamplifier. This will not allow adequate ventilation, and overheating will result.

The units may be stacked if the Preamplifier is situated on top of the Power Supply. A better arrangement would be to place the units side by side or on separate shelves and free from obstruction which may inhibit adequate ventilation.

Allow at least 6" (15 cm) of clear space above the Preamplifier chassis for proper ventilation.

TROUBLE SHOOTING

If the SFL-2 Preamplifier is not producing sound, please check each of the following:

1. Check that the AC Detachable Power Cord is plugged into the SFL-2 Power Supply's Detachable Power Cord Socket (K) and is connected to a live source of AC power. For instance, if using a power bar, check that the bar is turned on.

2. Be sure that the Operate/Standby Switch (U) on the Power Supply chassis is in the "up" (operate) position.

3. Check that the proper input has been selected with the Selector Switch (N) on the Preamplifier chassis.

4. Ensure that the Mute/Operate Switch (R) is in the "down" (operate) position.

5. Check that both AC Line Fuses (L) at the rear of the Power Supply chassis are good. Be sure to first unplug the AC Detachable Power Cord from the Power Supply.

6. Check to be sure that all eight 6922 tubes are correctly and firmly seated in their tube sockets and that all nine contact pins are inserted in each socket (i.e. no pins are bent over). Verify that an orange glow is visible from inside of each tube when the unit is on.

7. If you are still experiencing any difficulty with your SFL-2 Preamplifier, contact your dealer or distributor for assistance.

SAFETY INSTRUCTIONS

1. Ventilation - Although your SFL-2 Preamplifier generates only nominal heat in use, be sure that the ventilation slots in the top cover have at least 6" of unobstructed air space above them.

2. Water and Moisture - This product should not be used near water. Do not expose this product to rain or moisture to prevent fire or shock hazard.

3. Heat - This product should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances which produce heat.

4. Power Sources - This product should be connected to an AC power source of the proper rated voltage. The original shipping containers will stipulate the AC voltage this unit can operate with correctly.

5. Cleaning - A regular dusting with a soft, non-abrasive cloth will generally keep the finish of the faceplate and chassis looking like new. At no time should you allow any liquid to come in contact with the SFL-2 Preamplifier and Power Supply; it may run into the electronic circuitry and cause damage which will not be covered under your warranty.

6. Servicing - Do not open this product. No user serviceable parts inside. Refer servicing to an authorized service technician.

7. Non-Use Periods - The power cord of this product should be unplugged from the outlet when left unused for an extended period of time.

8. Do not remove Preamplifier or Power Supply covers while unit is "on", in "standby" or connected to an AC power source. Cover screws could fall through ventilation slots which may cause damage (electrical shorts) to the SFL-2.

PACKING MATERIALS

We recommend that you retain all of the packing material and shipping boxes for your SFL-2 Preamplifier and Power Supply. They are custom designed to prevent shipping damage from occurring. Sonic Frontiers, Inc. will accept no responsibility for any damage occurring to an SFL-2 Preamplifier and Power Supply that is shipped in packing material other than the original Sonic Frontiers packing material.

DISCLAIMER OF LIABILITY

Under no circumstances does Sonic Frontiers, Inc. assume liability or responsibility for injury or damages sustained in the use or operation of this equipment or for damages to any other equipment connected to it.

Sonic Frontiers, Inc. reserves the right to make design changes or improvements without the obligation to revise prior versions. All specifications are subject to change without notice.

LIMITED FIVE YEAR WARRANTY

Sonic Frontiers, Inc. warrants to the purchaser that each SFL-2 Preamplifier and Power Supply is free of manufacturing defects for a period of five (5) years from the date of purchase. This five (5) year limited non-transferable warranty excludes all vacuum tubes, which we warrant for a period of twelve (12) months. To receive this warranty, the original purchaser must complete and mail to Sonic Frontiers, within thirty (30) days from the date of purchase, the enclosed Warranty Registration Form. Sonic Frontiers, Inc. will then validate the warranty to the original purchaser. This warranty is subject to the following conditions and limitations:

1. Warranty applies only to the original purchaser.

2. This warranty is void and inapplicable if the product has been handled other than in accordance with the instructions in this Owner's Manual, abused or misused, damaged by accident or neglect or in being transported, or the defect is due to the product being tampered with, modified or repaired by anyone other than Sonic Frontiers, Inc. or an authorized Sonic Frontiers repair depot.

3. Warranty does not cover normal maintenance.

4. Sonic Frontiers, Inc. shall not be responsible in any way for consequential or indirect damages or liabilities resulting from the use and operation of the product covered herein or resulting from any breach of this warranty or any implied warranty relating to said product.

During this period, Sonic Frontiers, Inc. will repair or replace any defective components free of charge. A Return Authorization Number (RAN) is required before any product is returned to our factory for any reason. This number must be visible on the exterior of the shipping container(s) for Sonic Frontiers to accept the return.

Units shipped to us without a Return Authorization Number or without a visible RAN on the exterior of the shipping container(s) will be returned to the sender, freight collect.

Units to be repaired by Sonic Frontiers, Inc. must be sent shipping and insurance prepaid by the original purchaser in the original packing material. A returned product should be accompanied by a written description of the defect. Repaired units will be returned by Sonic Frontiers, Inc. shipping and insurance prepaid.

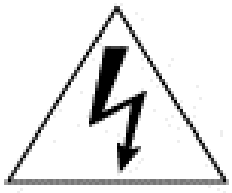
All other warranties or conditions either written or implied are void.

Note: In foreign markets (anywhere outside of Canada and the USA), the warranty is supplied by the authorized International Distributor. Exact terms and conditions may vary.

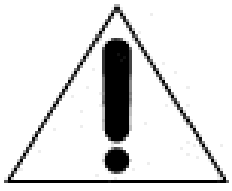
TECHNICAL SPECIFICATIONS

Frequency Response (100K load)	2 Hz to 100 kHz ±0.5 dB > 350 kHz -3.0 dB
THD & N (@ 1 V output)	< 0.1% from 20 Hz to 20 kHz typically < 0.03% @ 1 kHz
Gain	22 dB @ 1 kHz (single-ended) 28 dB @ 1 kHz (balanced)
Noise	120 uV unweighted (balanced outputs, volume control @ 12 o'clock) -85 dB below @ 2 Volt R.M.S. output
SMPTE (IMD) @ 2 V output	< 0.05%, typically 0.03% (balanced)
Input Impedance	50 K ohms (single-ended) 100 K ohms (balanced)
Output Impedance	160 ohms @ 1 kHz (single-ended) 320 ohms @ 1 kHz (balanced)
Minimum Recommended Load Impedance 10 K ohms	
Output Voltage (100K / 100pf & 10K / 1000pf loads)	Maximum 30 V R.M.S. (single-ended) Maximum 60 V R.M.S. (balanced)
Maximum Input	2.5 V R.M.S. (Volume control fully clockwise)
Stereo Separation (Crosstalk)	70 dB @ 1 kHz (single-ended) 75 dB @ 1 kHz (balanced)
Power Requirements	135 VA (75 VA in standby mode) 50 / 60 Hz 1.1 Amps @ 120 V A.C.
Fuse Requirements (2)	1.5 Amp 250 V fast-blo (100 V to 120 V Countries) 0.75 Amp 250 V fast-blo (200 V to 240 V Countries)
Tube Complement	8 - 6922 (6DJ8 types)
Dimensions (each chassis)	19" Wide x 13" Deep x 4.5" High (48 cm x 33 cm x 11.5 cm)
Weight	55 lbs (25 kg) - unpacked 62 lbs (28 kg) - factory packed

NOTE: All measurements performed with an Audio Precision System One test center.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

We at Sonic Frontiers are sure that you will derive many years of listening pleasure with your new SFL-2 Preamplifier and Power Supply. This Owner's Manual contains important information regarding the operation and care of the SFL-2. Be sure to read this manual carefully and follow these instructions in order to keep it looking, operating and sounding its best.

SONIC FRONTIERS
INCORPORATED

BREAKING THE SOUND BARRIER

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Sonic Frontiers can be reached from 9:00 a.m. to 5:00 p.m., Eastern Standard Time, or 24 hours a day by facsimile.